

REMARKS/ARGUMENTS

This is a response to the Office Action dated August 23, 2007.

Applicants' attorneys appreciate the Examiner's thorough search and examination of the present patent application. By the present Amendment, claim 37 has been amended in order to further clarify the features of the present application and new claims 38-40 have been added. It is respectfully submitted that no new matter has been added.

Claim 37 has been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. to Kaiya ("Kaiya") in view of U.S. Patent No. 5,434,615 to Matumoto ("Matumoto"). Reconsideration of this rejection is respectfully requested.

Claim 37, as amended herein, recites an imaging apparatus including, among other things:

an imaging device having an imaging device for picking up an image of an object and generating an image pick-up signal; and

a connector electrically connected to the imaging device via an elongate signal transmission line, the connector including:

a timing signal generation circuit for generating a periodic timing signal according to the type of the imaging device;

a sampling circuit for sampling the image pick-up signal at a predetermined sampling timing according to the timing signal;

a phase delay circuit for delaying the phase of the timing signal by a delay amount according to the length of the signal transmission line; and

an imaging device drive circuit for generating a drive signal to drive the imaging device and inputting the generated drive signal to the imaging device based on the timing signal, the phase of which has been delayed by the phase delay circuit:

wherein the sampling circuit performs the sampling at a timing of a constant phase relation with respect to the image pick-up signal even when the length of the signal transmission line is different.

Thus, in accordance with amended claim 37, since the phase of the drive signal provided to drive the imaging device is adjusted in advance, a predetermined phase is provided to the output signals of the imaging device. As a result, the output signals of the imaging device are provided to the sampling circuit such that the sampling circuit and the video signal processing circuit always perform signal processing at a constant timing even if the length of the signal transmission line, or the number of pixels utilized by the imaging device is changed. Kaiya and Matsumoto fail to disclose the features of amended claim 37.

The Examiner concedes that Kaiya does not disclose a phase delay circuit that delays the phase of the timing signal changing in accordance with the length of the signal transmission line and an imaging device drive circuit for generating a drive signal to drive the imaging device and inputting the drive signal to the imaging device based on the timing signal the phase of which has been delayed by the phase delay circuit. The Examiner contends, however, that Matumoto discloses this feature. Applicants respectfully disagree.

The Examiner again makes reference to the sampling pulse generator 19 of Matumoto and argues that it adjusts or changes the phase of the drive signal and also argues that the drive signal is input to the imaging device via the transmission line. The Examiner specifically refers to Figures 1 and 3 of Matumoto and argues that the horizontal drive pulse (ϕH) or the reset pulse (ϕW) are input into element 31 of the sampling pulse generator for processing pulse width and then into element 32 for phase adjustment to be done over the transmission line. Applicants respectfully disagree.

As has been previously explained, Matumoto does not disclose or suggest changing the phase of a drive signal for driving an imaging device. In Matumoto, the output of the sampling pulse generator (19) is provided as an input to the sample-and-hold (correlated double sampling (CDS)) circuit (18) for sampling of an output of the imaging device. Matumoto samples and holds the video signal using a sampling pulse, which corresponds to the length of the endoscope to enable signal processing. The phase of the sampling pulses is adjusted to compensate for the phase delay of signals that are output from the imaging device. The phase delay in these signals is the result of differences between types of endoscopes. However, there is no disclosure in Matumoto of providing the imaging device with a drive signal whose phase has been changed

based on the length of the signal transmission line.

The sampling timing in Matsumoto differs depending on the type of endoscope, and thus, the timing of a signal output from the CDS circuit and input into the image processing circuit differs depending on the type of endoscope. The image processing circuit of Matsumoto thus requires an additional adjusting circuit to adjust the processing time thereof to a timing appropriate for the type of endoscope. Thus, the circuit of Matsumoto requires additional circuitry which results in increase circuit size and complexity. The device of claim 37 avoids this.

Further, even if Matsumoto did disclose the features of claim 37 that are not disclosed in Kaiya, which it does not, it would not have been obvious to one of ordinary skill in the art to modify Kaiya to include the features allegedly disclosed in Matsumoto.

As is well known, The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In the present case, there would be no benefit in making the combination suggested by the Examiner, since as is noted above, the circuit of Matsumoto requires additional circuitry which results in an increase circuit size and complexity, and thus, there would be no benefit in modifying Kaiya to include the circuitry of Matsumoto.

Accordingly, it is respectfully submitted that claim 37, and the claims depending therefrom, are patentable over the cited art for at least the reasons described above.

New claims 38-40 depend on claim 37, and thus, are believed to be patentable over the cited art for reasons at least similar to those described above.

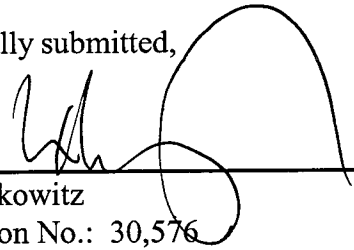
Applicants appreciate the Examiner's indication that claims 1, 2, 4, 5, 7, 9-16, 18 and 20-22 are patentable.

In light of the remarks made herein, it is respectfully submitted that claims 1, 2, 4, 5, 7, 9-16, 18, 20-22, and 37-40 are patentable over the cited art and are in condition for allowance.

Favorable reconsideration of the present application is respectfully requested.

THIS CORRESPONDENCE IS BEING
SUBMITTED ELECTRONICALLY THROUGH
THE PATENT AND TRADEMARK OFFICE EFS
FILING SYSTEM ON November 21, 2007.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Max Moskowitz', is written over a horizontal line.

Max Moskowitz

Registration No.: 30,576

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700